REMARKS

This Amendment After Final Rejection is submitted in response to the outstanding final Office Action, dated January 22, 2009. Claims 1 through 20 are presently pending in the above-identified patent application. In this response, applicant proposes to amend claims 1 and 18-20. No additional fee is due.

This amendment is submitted pursuant to 37 CFR §1.116 and should be entered. The Amendment places all of the pending claims, i.e., claims 1 through 20, in a form that is believed allowable, and, in any event, in a better form for appeal. It is believed that examination of the pending claims as amended, which are consistent with the previous record herein, will not place any substantial burden on the Examiner. In any case, a Request for Continued Examination is being submitted herewith.

In the Office Action, the Examiner rejected claims 1-20 under 35 U.S.C. §103(a) as being unpatentable over Wang et al. (Clustering by Pattern Similarity in Large Data Sets, ACM SIGMOD' 2002 June 4-6, Madison Wisconsin, USA) in view of Brin et al. (Near Neighbor Search in Large Metric Spaces, Nov 20, 1995).

Independent Claims 1 and 18-20

Independent claims 1 and 18-20 were rejected under 35 U.S.C. §103(a) as being unpatentable over Wang et al. in view of Brin et al. Regarding claim 1, the Examiner acknowledges that Wang teaches clustering by pattern similarity rather than defining subspace correlations between the objects to identify nearest neighbor, and asserts that Brin teaches a simplified algorithm (section 4.1 and pages 8-10) "wherein the model of finding near neighbors in a large metric space wherein every data type has some degree of correlation in its distribution, it must be exploited to get good performance in a near neighbor search." In the Response to Arguments, the Examiner asserts that, "once several objects have been linked together, we determine the distances between those new clusters by finding the 'nearest neighbors' across clusters to determine the distances between clusters."

As the Examiner acknowledges, Wang is directed to clustering by pattern similarity. (See, Abstract.) While the processes of "clustering" and "finding the nearest neighbor" share the concept of pattern similarity, the results of the processes are *not* the same, as would be apparent to a person of ordinary skill in the art. For example, in "clustering," a given

set of datasets are processed and grouped into clusters. Once the clustering is completed, however, the nearest neighbor of a given data item is still not known. Thus, as the Examiner acknowledges, "clustering" and the Wang reference do *not* disclose or suggest *defining subspace correlations between two or more of the objects in the set based on the identified subspace pattern similarities for use in identifying near-neighbor objects.*

Regarding the Examiner's assertion that, "once several objects have been linked together, we determine the distances between those new clusters by finding the 'nearest neighbors' across clusters to determine the distances between clusters," Applicants note that a "cluster" is defined as "a *group* of the same or similar elements gathered or occurring closely together." (See, dictionary.com; emphasis added) Thus, at best, a "cluster" is *not* an object, but a *group of objects*. The identification of *near-neighbor objects*, as required by the present independent claims, is *not* equivalent to the identification of a group of objects that are near neighbors in relation to another group of objects. In the latter case, the near neighbor(s) of an object are *not* known. In fact, finding a group of objects which are the nearest neighbors of another group of objects has limited value in determining the nearest neighbor of an object. Independent claims 1, 19, and 20 have therefore been amended to require *identifying subspace pattern similarities that the objects in the set exhibit in multi-dimensional spaces; and defining subspace correlations between one of the objects in the set and each of one or more remaining objects in the set based on the identified subspace pattern similarities for use in identifying near-neighbor objects.* Independent claim 18 requires *defining subspace correlations between one of the objects in the set and each of one or more remaining objects in the set based on the identified subspace pattern similarities; and using the subspace correlations to identify near-neighbor objects among the query objects and the objects in the set.*

In addition, while Brin discloses utilizing both correlated and uncorrelated data (Section 4.3), Brin does *not* disclose or suggest *defining subspace correlations between one of the objects in the set and each of one or more remaining objects in the set based on the identified subspace pattern similarities for use in identifying near-neighbor objects.* Independent claims 1, 19, and 20 require *identifying subspace pattern similarities that the objects in the set exhibit in multi-dimensional spaces; and defining subspace correlations between one of the objects in the set and each of one or more remaining objects in the set based on the identified subspace pattern*

similarities for use in identifying near-neighbor objects. Independent claim 18 requires *defining subspace correlations between one of the objects in the set and each of one or more remaining objects in the set based on the identified subspace pattern similarities; and using the subspace correlations to identify near-neighbor objects among the query objects and the objects in the set.*

Thus, Wang et al. and Brin et al., alone or in combination, do not disclose or suggest identifying subspace pattern similarities that the objects in the set exhibit in multi-dimensional spaces; and defining subspace correlations between one of the objects in the set and each of one or more remaining objects in the set based on the identified subspace pattern similarities for use in identifying near-neighbor objects, as required by independent claims 1, 19, and 20, and do not disclose or suggest creating a pattern distance index to identify subspace pattern similarities that the objects in the set exhibit in multi-dimensional spaces; defining subspace correlations between one of the objects in the set and each of one or more remaining objects in the set based on the identified subspace pattern similarities; and using the subspace correlations to identify near-neighbor objects among the query objects and the objects in the set, as required by independent claim 18.

Dependent Claims 2-17

Dependent claims 2-17 were rejected under 35 U.S.C. §103(a) as being unpatentable over Wang et al. in view of Brin et al.

Claims 2-17 are dependent on claim 1 and are therefore patentably distinguished over Wang et al. and Brin et al., alone or in combination, because of their dependency from amended independent claim 1 for the reasons set forth above, as well as other elements these claims add in combination to their base claim.

All of the pending claims following entry of the amendments, i.e., claims 1-20, are in condition for allowance and such favorable action is earnestly solicited.

If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this application, the Examiner is invited to contact the undersigned at the telephone number indicated below.

The Examiner's attention to this matter is appreciated.

Respectfully submitted,

/Kevin M. Mason/

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